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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/654,501

09/01/2000

Yuji Takahashi

PM 273792

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12/10/2004

MCGINN & GIBB, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER

BAUMEISTER, BRADLEY W

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/654,501	Applicant(s) TAKAHASHI ET AL.	
	Examiner B. William Baumeister	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-13, 16-22, 25-28, 30-34, 38-46 and 49-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-3 6-13 16-22 25-28 30-34 38-46 49-66 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 49 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Please refer to the rejection set forth in the Office Action dated 5/21/04. Applicant has argued in response to the prior rejection that claim 49 is intended to read, e.g., on the FIG 12 embodiment. Regardless of what Applicant intended, the problem with claim 49 depends from claim 1. Claim 1, in turn, reads on the alternative encapsulant configuration of FIG 1, for example. As such claim two claims conflict rendering the claims indefinite.

- a. Regarding the merits of claim 49, see paragraph 7c of the prior Office Action.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. All of the claims that were pending at the time of the prior Office Action have been broadened. As such, all of the rejections and the underlying rationales and bases that were set forth in the prior Office Action dated 5/21/04 are still applicable. Thus, the prior rejections are incorporated in full into the present Office Action.

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5. Newly added claims 63-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior-art references cited in the previous Office Action including Shimizu '925.

a. These newly-added claims further set forth that the light-emitting layer comprises a multiple quantum well structure wherein the wells comprise InGaN. Regardless of whether Soules, Butterworth, Tsusui, Nakamura or any of the other cited prior-art references discuss the particular structure of the GaN-based LEDs light-emitting or active layer, at least Shimizu does teach that GaN-based LEDs which are to emit primary light in the range of 400 to 530 nm (e.g., col. 4, lines 45-) may do so with InGaN MQW active layers (e.g., col. 13, line 50 – col. 14, line 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to have employed within an emitter according to the prior art, an InGaN MQW active layer as taught by Shimizu because MQWs were conventional, providing greater efficiency than a SQW active layer; and employing InGaN in particular for the wells of the active layer would have been obvious because In must be added to GaN to emit in this wavelength range and because InGaN is more conventional and stable than InAlN or InGaAlN.

Response to Arguments

6. Applicant's arguments filed 9/27/04 have been fully considered but they are not persuasive.

a. Applicant has argued that the prior art does not teach a transparent electrode disposed above the single reflective layer.

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b. The issue of the transparent electrode, itself, has been previously addressed. To summarize, Nakamura states that their electrode is "light transmitting," and the passage, "does not necessarily mean[] colorless, transparent" (col. 4, lines 60-64), expressly defines this term to mean either transparent or semitransparent; it does not preclude the electrode being transparent.

c. As such, the examiner interprets Applicant's argument to be that none of the prior art references alone teaches the transparent electrode in combination with the reflective layer. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

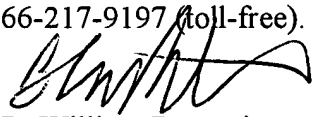
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. William Baumeister whose telephone number is (571) 272-1722. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


B. William Baumeister
Primary Examiner
Art Unit 2815
BRADLEY BAUMEISTER
PRIMARY EXAMINER

December 6, 2004